CLAIMS:

1. A method comprising:

establishing a routing communication session between a primary routing control unit of a first router and a second router, wherein the routing communication session is established to have a first restart time in the event of a session failure; and

reestablishing the routing communication session with a secondary routing control unit of the first router upon failure of the primary routing control unit, wherein the routing communication session is reestablished to have a second restart time less than first restart time.

2. The method of claim 1, further comprising automatically renegotiating the second restart time to the first restart time upon recovery of the primary routing control unit.

3. The method of claim 1, further comprising:

preserving forwarding information in a state of the first router prior to failure of the primary routing control unit; and

forwarding traffic in accordance with the preserved forwarding information while reestablishing the routing communication session.

4. The method of claim 1, further comprising:

determining whether the second router supports dynamic renegotiation; and

selectively reducing the second restart time from the first restart time based on the determination.

5. The method of claim 4, wherein determining whether the second router supports dynamic renegotiation comprises monitoring the routing communication session between the primary routing control unit and the second router to determine whether the second router supports dynamic renegotiation.

6. The method of claim 4, wherein determining whether the second router supports dynamic renegotiation comprises:

receiving information from the second router that identifies one or more routing protocol capabilities supported by the second router; and

identifying the second router as supporting dynamic renegotiation based on the capability information.

7. The method of claim 1, wherein reestablishing the routing communication session comprises:

initially reestablishing the routing communication session to have a third restart time that is substantially the same as the first restart time; and

dynamically renegotiating the third restart time to the second restart time upon identifying the second router as supporting dynamic renegotiation.

8. The method of claim 1, wherein reestablishing the routing communication comprises reestablishing the routing communication between in accordance with a routing protocol.

9. The method of claim 8, wherein the routing protocol comprises one of the Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), Routing Information Protocol (RIP), Label Distribution Protocol (LDP), and Resource Reservation Protocol (RSVP).

10. A network device comprising:

a primary routing control unit that establishes a routing communication session with a neighboring network device in accordance with a routing protocol, wherein the primary routing control unit establishes the routing communication session to have a first restart time; and

a secondary routing control unit that reestablishes the routing communication session upon failure of the primary routing control unit, wherein the secondary routing control unit reestablishes the routing communication session to have a second restart time reduced from the first restart time.

11. The network device of claim 10, wherein the secondary routing control unit renegotiates the second restart time to an increased value upon recovery of the primary routing control unit.

12. The network device of claim 10, wherein the secondary routing control unit preserves forwarding information in a state of the network device prior to failure of the primary routing control unit.

13. The network device of claim 12, wherein the secondary routing control unit receives a routing communication from the neighboring network device, extracts updated routing information from the routing communication, and updates the preserved forwarding information based on routing communications from the neighboring network device.

14. The network device of claim 12, further comprising a forwarding component that forwards traffic in accordance with the preserved forwarding information.

15. The network device of claim 14, further comprising one or more interface cards to receive and send data flows to and from a network, and wherein the forwarding component resides within at least one of the interface cards.

16. The network device of claim 14, further comprising a forwarding engine, and wherein the forwarding component resides within the forwarding engine.

17. The network device of claim 10, wherein the secondary routing control unit identifies the neighboring router as supporting dynamic renegotiation.

18. The network device of claim 17, wherein the secondary routing control unit monitors the routing communication session maintained by the primary routing control unit to identify the neighboring router as supporting dynamic renegotiation.

19. The network device of claim 17, wherein the secondary routing control unit receives information from the neighboring router identifying one or more routing protocol capabilities supported by the neighboring router and identifies the neighboring router as supporting dynamic renegotiation based on the received information.

20. The network device of claim 10, wherein the secondary routing control unit immediately reestablishes the routing communication session to have a third restart time that is substantially the same as the first restart time and renegotiates the third restart time to the second restart time upon identifying the neighboring router as supporting dynamic renegotiation.

21. The network device of claim 10, wherein the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), Routing Information Protocol (RIP), Label Distribution Protocol (LDP), and Resource Reservation Protocol (RSVP).

22. A computer-readable medium comprising instructions to cause a processor to:

establish a routing communication session between a primary routing control unit of a first router and a second router, wherein the routing communication session is established to have a first restart time in the event of a session failure; and

reestablish the routing communication session with a secondary routing control unit of the first router upon failure of the primary routing control unit, wherein the routing communication session is established to have a second restart time less than first restart time.

23. The computer-readable medium of claim 22, further comprising instructions that cause the processor to automatically renegotiate the second restart time to an increased value upon recovery of the primary routing control unit.

24. The computer-readable medium of claim 22, further comprising instructions that cause the processor to:

preserve forwarding information in a state of the first router prior to failure of the primary routing control unit; and

forward traffic in accordance with the preserved forwarding information.

25. The computer-readable medium of claim 22, further comprising instructions that cause the processor to identify the neighboring router as supporting dynamic renegotiation.

26. The computer-readable medium of claim 25, further comprising instructions to cause the processor to monitor the routing communication session between the primary routing control unit and the neighboring router to identify whether the neighboring router supports dynamic renegotiation.

27. The computer-readable medium of claim 25, further comprising instructions to cause the processor to:

receive information from the neighboring router that identifies one or more routing protocol capabilities supported by the neighboring router; and

identify the neighboring router as supporting dynamic renegotiation based on the capability information.

28. The computer-readable medium of claim 22, further comprising instructions that cause the processor to:

immediately reestablish the routing communication session having a third restart time that is substantially the same as the first restart time; and

renegotiate the third restart time to the second restart time upon identifying the neighboring router as supporting dynamic renegotiation.

29. A method comprising:

communicating restart information from a first router to a second router, wherein the restart information directs the second router to maintain the first router within a forwarding path of the second router for a first restart time period;

communicating a second restart time period to the second router in response to a failure, wherein the second restart time period is reduced from the first restart time period; and

renegotiating the second restart time to an increased value upon recovery from the failure.

30. The method of claim 29, further comprising preserving forwarding information in a state of the first router upon occurrence of the failure.

31. The method of claim 30, further comprising forwarding traffic in accordance with the preserved forwarding information.

32. A method comprising:

establishing a session between a primary control unit of a first device and a second device, wherein the session is established to have a first restart time in the event of a session failure; and

reestablishing the session with a secondary control unit of the first device upon failure of the primary control unit, wherein the session is reestablished to have a second restart time less than first restart time.

33. The method of claim 32, further comprising automatically renegotiating the second restart time to the first restart time upon recovery of the primary control unit.

34. The method of claim 32, further comprising:

preserving information in a state of the first device prior to failure of the primary control unit; and

forwarding traffic in accordance with the preserved information while reestablishing the session.

35. The method of claim 32, further comprising:

determining whether the second device supports dynamic renegotiation; and

selectively reducing the second restart time from the first restart time based on the determination.

36. The method of claim 35, wherein determining whether the second device supports dynamic renegotiation comprises monitoring the session between the primary control unit and the second device to determine whether the second device supports dynamic renegotiation.

37. The method of claim 35, wherein determining whether the second device supports dynamic renegotiation comprises:

receiving information from the second device that identifies one or more protocol capabilities supported by the second device; and

identifying the second device as supporting dynamic renegotiation based on the capability information.

38. The method of claim 32, wherein reestablishing the session comprises:

initially reestablishing the session to have a third restart time that is substantially the same as the first restart time; and

dynamically renegotiating the third restart time to the second restart time upon identifying the second device as supporting dynamic renegotiation.

39. The method of claim 32, wherein reestablishing the session comprises reestablishing the session in accordance with a routing protocol.

40. The method of claim 39, wherein the protocol comprises one of the Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), Routing Information Protocol (RIP), Label Distribution Protocol (LDP), and Resource Reservation Protocol (RSVP).

41. The method of claim 31, wherein establishing a session comprises establishing a routing session between a primary routing control unit of a first router and a second router.

42. Elements comprising:

a primary control unit that establishes a session with a neighboring network device in accordance with a protocol, wherein the primary control unit establishes the session to have a first restart time; and

a secondary control unit that reestablishes the session upon failure of the primary control unit, wherein the secondary control unit reestablishes the session to have a second restart time reduced from the first restart time.

43. The elements of claim 42, wherein the secondary control unit renegotiates the second restart time to an increased value upon recovery of the primary control unit.

44. The elements of claim 42, wherein the secondary control unit preserves information prior to failure of the primary routing control unit.

45. The elements of claim 44, wherein the secondary control unit receives a communication from the neighboring network device, extracts updated information from the communication, and updates the preserved information based on routing communication from the neighboring network device.

46. The elements of claim 44, further comprising a forwarding component that forwards traffic in accordance with the preserved information.

47. The elements of claim 46, further comprising one or more interface cards to receive and send data flows to and from a network, and wherein the forwarding component resides within at least one of the interface cards.

48. The elements of claim 46, further comprising a forwarding engine, and wherein the forwarding component resides within the forwarding engine.

49. The elements of claim 42, wherein the secondary routing control unit identifies the neighboring network device as supporting dynamic renegotiation.

50. The elements of claim 49, wherein the secondary control unit monitors the session to identify the neighboring network device as supporting dynamic renegotiation.

51. The elements of claim 49, wherein the secondary control unit receives information from the neighboring network device identifying one or more capabilities supported by the neighboring network device and identifies the neighboring network device as supporting dynamic renegotiation based on the received information.

52. The elements of claim 42, wherein the secondary control unit immediately reestablishes the session to have a third restart time that is substantially the same as the first restart time and renegotiates the third restart time to the second restart time upon identifying the neighboring network device as supporting dynamic renegotiation.

53. The elements of claim 42, wherein the protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System – Intermediate System (ISIS), Routing Information Protocol (RIP), Label Distribution Protocol (LDP), and Resource Reservation Protocol (RSVP).

54. The elements of claim 42, wherein the elements comprises elements of a network device.